

AMENDMENTS TO THE CLAIMS

1. (previously presented) An isolated gene encoding:
 - (a) a protein having the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing; or
 - (b) a protein having at least 80% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids and also binding to an antibody or its or an antibody fragment that is active to induce granulocyte colony-stimulating factor.

2. (previously presented) An isolated gene having:
 - (a) the nucleotide sequence listed as SEQ ID NO:1 of the Sequence Listing;
 - (b) a nucleotide sequence which encodes a protein having at least 80% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids and that can bind to an antibody or an antibody fragment this is active to induce granulocyte colony-stimulating factor; or
 - (c) a nucleotide sequence which hybridizes with DNA having the nucleotide sequence listed as SEQ ID NO:1 of the Sequence Listing under stringent conditions of 6X SSC, 5X Denhardt's solution, 0.5% SDS, 25-68°C or 0-50% formamide, 6X SSC, 0.5% SDS, 25-68°C and which encodes a protein that can bind to an antibody or an antibody fragment that is active to induce granulocyte colony-stimulating factor.

3-4. (Cancelled)

5. (previously presented) A gene according to claim 1 or 2, wherein the antibody that is active to induce granulocyte colony-stimulating factor is the monoclonal antibody produced by a hybridoma of the cell line deposited as FERM BP-6103.

6. (previously presented) A gene according to claim 1, which is a mouse gene.

7-8. (Cancelled)

9. (previously presented) Any of the following purified proteins:

(a) a protein having the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing;

(b) a protein having at least 80% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids and also binding to an antibody or its or an antibody fragment that is active to induce granulocyte colony-stimulating factor; or

(c) a protein that is encoded by the DNA which hybridizes with DNA having the nucleotide sequence listed as SEQ ID NO:1 of the Sequence Listing under stringent conditions of 6X SSC, 5X Denhardt's solution, 0.5% SDS, 25-68°C or 0-50% formamide, 6X SSC, 0.5% SDS, 25-68°C and that binds to an antibody or an antibody fragment that is active to induce granulocyte colony-stimulating factor.

10. (cancelled)

11. (previously presented) A purified protein according to claim 9, wherein the antibody that is active to induce granulocyte colony-stimulating factor is the monoclonal antibody produced by a hybridoma of the cell line deposited as FERM BP-6103.

12. (previously presented) A purified protein according to claim 9, which is a mouse protein.

13-17. (cancelled)

18. (currently amended) A recombinant vector containing a gene ~~or DNA fragment~~ according to claim 1.

19. (currently amended) A transformed cell comprising a recombinant vector that contains the gene ~~or the DNA fragment~~ according to claim 1.

20. (currently amended) An isolated receptor for a substance that can induce production of granulocyte colony-stimulating factor including, wherein ~~such as a monoclonal antibody or an antibody fragment that is produced by a hybridoma of the cell line deposited as FERM BP-6103, and~~ the receptor comprises a protein according to claim 9 and is present in a cell which can produce granulocyte colony-stimulating factor.

21. (currently amended) A screening method for any of the following substances (a)-(c) which comprises

(i) measuring binding between a potential substance and a protein according to claim 9 or a receptor according to claim 20,

(ii) measuring effects of the potential substance via a receptor according to claim 20, or

(iii) comparing the structure of the potential substance and the structure of a protein according to claim 9;

wherein the substances (a)-(c) are:

(a) a substance which can bind to a receptor that can induce production of granulocyte colony-stimulating factor, wherein the substance, as a result of its binding to the receptor, is capable of causing a change in the receptor structure, transmitting signals into the cell via the receptor, and thus inducing production of granulocyte colony-stimulation factor;

(b) a substance which can bind to a receptor that can induce production of granulocyte colony-stimulating factor, wherein the substance, and as a result of its binding to the receptor, the substance can inhibit the binding of the receptor to another substance that can induce production of granulocyte colony-stimulating factor, and wherein the substance itself does not induce production of granulocyte colony-stimulation factor; or

(c) a substance which can bind to a receptor that can induce production of granulocyte colony-stimulating factor, wherein said substance, as a result of its binding to the receptor, can inhibit the binding of the receptor to another substance that can induce production

of granulocyte colony-stimulating factor, and wherein the substance itself blocks production of granulocyte colony-stimulating factor.

22-23. (cancelled)

24. (currently amended) A pharmaceutical composition comprising a gene ~~or DNA fragment~~ according to claim 1, a protein according to claim 9, or a receptor according to claim 20.

25-28. (cancelled)

29. (previously presented) The receptor of claim 20, wherein the cell which can produce granulocyte colony-stimulating factor is a macrophage.

30. (previously presented) The isolated gene of claim 1 which encodes a protein having at least 90% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids.

31. (previously presented) The isolated gene of claim 1 which encodes a protein having at least 95% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids.

32. (previously presented) The purified protein of claim 9 which has at least 90% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids.

33. (previously presented) The purified protein of claim 9 which has at least 95% identity with the amino acid sequence listed as SEQ ID NO:2 of the Sequence Listing through the conservative substitution of one or more amino acids.

34. (new) An isolated receptor according to claim 20, wherein the substance that can induce production of granulocyte colony-stimulating factor is a monoclonal antibody or an antibody fragment.

35. (new) An isolated receptor according to claim 20, wherein the substance that can induce production of granulocyte colony-stimulating factor is a monoclonal antibody or an antibody fragment that is produced by a hybridoma of the cell line deposited as FERM BP-6103.